NSDAR Educational Resources Committee

"Fractions of a Whole"

Contributor: Carrie Ann Bright **Grade Level:** 1st – 2nd

1. **Identify the standards to be addressed:** Common Core Math

2. **Statement of the objective and lesson outcomes:** Students will be able to identify fractions and divide items into halves, thirds, and quarters.

   Ready, set, fractions! In this hands-on lesson, your students will familiarize themselves with common fractions using concrete materials to practice splitting items into halves, thirds, and quarters.

3. **Materials, resources, and technology to be used by teacher/students**: Whiteboard, Apple, 2 bananas, Knife (for dividing items,) Fraction Quiz worksheet, Fraction Coloring worksheet, Crayons, White paper (one per student) Scissors

   Key terms: fraction denominator numerator

   Handouts Fraction Coloring (PDF) Fraction Quiz (PDF) Introduction (2 minutes)

4. **Introduction of the topic**:
   Explain to your class that today, they will be learning about fractions. Define a fraction as a part of a whole. Draw a picture of a common fraction on the board, to better illustrate the concept to your student

5. **Procedure for instruction**:
   Display the apple to your class, and tell them that you want to give half of the apple to a person in the class. Use your knife to cut the apple in half. Give one of the halves to a student volunteer. Write the fraction 1/2 on the whiteboard. Explain to students that the denominator, or number on the bottom, tells how many equal parts the item is divided into. Tell your class that the numerator, or number on the top, tells how many of those parts are being referred to.

   Show the students your banana, and tell them that you're going to divide that banana into three equal pieces. Divide your banana into thirds. Give one third to a student volunteer. Tell your class that you just gave away one third of your banana. Write 1/3 on the chalkboard. Explain once more to students that the denominator tells how many equal parts the item is divided into, and the numerator tells how many parts are being referred to.

   Guided Practice (20 minutes): Show your students the second banana, and tell them that you're going to divide this into three equal parts as well. Divide the banana using your knife. Tell a student volunteer to take two of the three pieces, and ask the class some questions to gauge comprehension.

   For example: How much of the banana has been taken? How do you know?

   Choose a student to come to the front of the class and write a fraction that represents the pieces that were taken from banana. The volunteer should write 2/3 on the board. Choose students to call out the definitions for numerator and denominator again. After some practice, draw a circle on the board. Below the circle, write the fraction 3/4. Ask a student volunteer to shade in the correct number of parts on the circle, so that the visual matches the fraction 3/4.

Guide the class in helping the volunteer, asking questions such as: How many parts should the circle be divided into? How can you tell? How many of those parts should be shaded in? Why? Ensure that your volunteer correctly divides the circle into four equal parts, and shades in three of them. Explain to the class that the fraction 3/4 is the same as a circle divided into four equal parts, with three of those parts shaded in.

Independent working time (15 minutes): Pass out a copy of the Fraction Coloring worksheet to each student, along with crayons. Instruct students to read the instructions for each question on the worksheet, and to complete the worksheet independently.

Differentiation:

Enrichment: Encourage advanced students to tackle more complicated fractions, such as 2/5 and 5/6. Students can draw examples of more complex fractions in their notebooks or on white paper. Alternatively, you could give students a few fractions that can be simplified (such as 2/4 and 2/6) and ask them to tell you why 2/4 is the same as 1/2, for example.

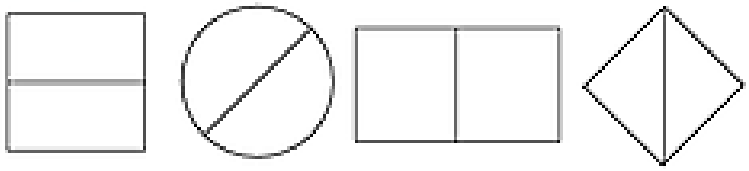
Support: Avoid the words "denominator" and "numerator" with students who are struggling; these terms may make fractions more confusing. Instead, work with these students in a small group, emphasizing that the top number refers to the number of parts being taken or given, and the bottom number refers to the number of parts of the whole

6. **Assessment of Understanding: A**ssess your students' understanding of basic fractions by having them complete the Fractions Quiz before leaving the classroom.

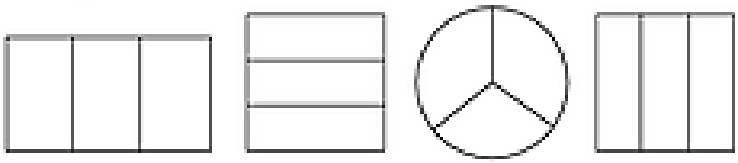
   Review and closing (8 minutes) To close the lesson, review the definitions of fraction, numerator, and denominator.

Fraction Coloring!

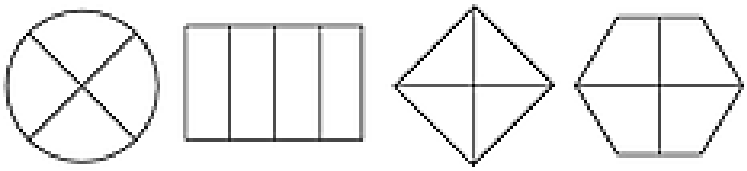
Color $\frac{1}{2}$ blue.



Color $\frac{1}{3}$ red.

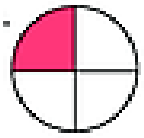


Color $\frac{1}{4}$ green.

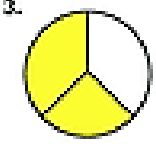


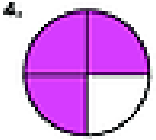
Fractions

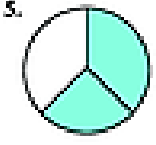
What fraction does the colored area show?
Color in the bubble next to the correct answer.

1. 
   ○ $\frac{1}{2}$ ○ $\frac{3}{4}$ ○ $\frac{1}{4}$ ○ $\frac{1}{3}$

2. 
   ○ $\frac{2}{3}$ ○ $\frac{2}{4}$ ○ $\frac{1}{4}$ ○ $\frac{1}{2}$

3. 
   ○ $\frac{3}{4}$ ○ $\frac{1}{2}$ ○ $\frac{2}{3}$ ○ $\frac{1}{3}$

4. 
   ○ $\frac{2}{4}$ ○ $\frac{3}{4}$ ○ $\frac{1}{3}$ ○ $\frac{1}{4}$

5. 
   ○ $\frac{3}{4}$ ○ $\frac{1}{3}$ ○ $\frac{2}{4}$ ○ $\frac{2}{3}$